

32692

Customer Number

Patent  
Case No.: 58117US004

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

First Named Inventor: JOSEPH, STEPHEN C. P.  
Application No.: 10/533743 Confirmation No.: 4553  
Filed: December 2, 2003  
Title: DROP-IN FILTER FOR SPRAY GUN RESERVOIR

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**DECLARATION UNDER 37 C.F.R. 1.131**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Stephen C. P. Joseph declares that:

1. He is the applicant and inventor of the above-identified patent application.
2. He has read the claims pending in the above-identified patent application and the amended claims to be submitted in response to the Office Action dated March 26, 2009.
3. The invention claimed in said claims was completed by him in the United Kingdom before October 31, 2002 as set forth in the following facts, as evidenced by the attached Exhibits 1-3, each of said Exhibits being a copy of a document existing prior to October 31, 2002. In all of the Exhibits, the dates recorded thereon have been deleted.
4. The completion of the invention involved the steps of his conceiving the invention and making embodiments of the invention or having others make such embodiments in accordance with his instructions.

5. Exhibit 1 (three pages) is a copy of his Record of Invention No. P032567 which sets forth a description of the invention at page 2. In that description and the other Exhibits, the term "PPS" stands for Paint Preparation System which is a system of articles sold by, his employer, 3M Company for preparing, containing and applying paint, said articles including cups, liners for the cups, lids, and spray guns. Of the figures in Exhibit 1, the fourth figure (from the left) shows a liquid supply assembly for use with the PPS system. The lid of the assembly has two openings, the smaller opening for connection to a spray gun, and the larger opening (filler opening) intended for filling the container shown with paint. There is a filter located in the filler opening, said filter comprising an elongate tubular body closed at one end and open at the other end, the open end being provided with a support collar that is integral with the tubular body of the filter. The collar fits in the filler opening of the lid so that the filter body extends away from the filler opening within the container when liquid is added to the container through the filler opening. In the fourth figure, the filter is oriented at an angle that is not parallel to the container side wall. The third figure from the left shows the filter by itself. The second figure from the left shows the filter mounted in a lid, different from the lid depicted in the fourth figure, with a screw cap covering the filler opening. In that figure, the filter extends straight down from the lid so that it would be oriented parallel to the side wall of the container once the lid is installed on the container. The first figure shows a version of the filter (next to a container with a lid) with a protective cage extending down from a collar and partially surrounding the filter medium.

6. Exhibit 2 is a cover sheet recording a design concept, and Exhibit 3 is the attachment to that cover sheet, showing three lid designs two of which embodiments of lids within the scope of the claims of the above referenced patent application. The first two lid designs shown (options 1 and 2) have a filler opening that can accommodate a tubular filter of the type shown in Exhibit 1, and a separate opening to be connected to a spraying apparatus (spray gun). In all three lid designs shown in Exhibit 3, the filler opening diameter is no greater than half the lid diameter.

7. Exhibit 4 is a cover sheet recording a design concept, and Exhibits 5 and 6 are the attachments to that cover sheet. Exhibit 5 is a photograph of the combination of a liquid supply assembly comprising a collapsible container and a lid with a spray gun mounted on an opening in the lid separate from the filler opening. Exhibit 6 is a photograph of the container and lid showing the separate openings, one for the spray gun and the filler opening and also a screw-on cap for the filler opening.

8. Exhibit 7 is a copy of Mr. Joseph's laboratory notebook no. 123055, page 49 with parts not pertinent to the present application redacted. The part shown is a copy of an electronic mail message to a European patent attorney, Cecilia Hill, describing Mr. Joseph's concept for a drop-in filter for the refillable PPS article. In that electronic mail message, the filter is described as collapsible, and its use in combination with a collapsible reservoir for delivering paint to a spray gun is stated.

9. Together, the attached Exhibits show all the elements of the claimed invention. Exhibit 6 shows a liquid supply assembly comprising a container for containing liquid having a collapsible side wall and a base on which the side wall can stand unsupported in an upright position, said container capable of being mounted on a hand held spray gun for supply of liquid to an inlet of the spray gun and having a filler opening for adding liquid to the container, separate from the opening to be connected to the gun. Exhibit 1, fourth figure, shows a filter comprising an elongate tubular body closed at one end and open at the other, the open end being provided with a collar integral with the tubular body that fits in the filler opening of the lid for the container, so that the filter body extends away from the opening within the container when liquid is added through the filler opening. The filter has a surface area and volume within the container to permit filling of the container with liquid that is filtered on being added to the container to produce a supply of filtered liquid within the container for supply to a spray gun. The filter is sufficiently rigid to maintain an elongate, tubular shape and sufficiently flexible to allow it to collapse as the container side wall collapses. Exhibit 5 shows a spray gun connected to a liquid

supply assembly according to the invention; while the tubular filter is shown in Exhibit 1. In all of the lid embodiments shown, the filler opening has an axis offset from the container axis.

The undersigned declares further that all statements made herein of his own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like are punishable by a fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the application or any patent issuing thereon.

JUNE 24<sup>th</sup> 2009

Date

By:

Stephen C.P. Joseph

**3M** Confidential

Corporate ROI #:

**P032567**

Division ROI #'s:

**EU-1708-GB-AT**

**ROI Title: Drop - In Filter / PPS ( Paint Preparation System )**

**Brief Summary:** This ROI is based around the concept of providing a filter, which can be used in conjunction with the refillable PPS.

**3M Employee Investigator Information**

Stephen C Joseph  
UK024116  
At Product Dev

**Invention Description:** (to view this attachment, right mouse-click on it and select Launch)



P032567.pdf

**Described by:**  
Joseph, Stephen C  
**Signed on:**  
[Redacted Signature]

**Witnessed by:**  
Delbridge, Neil  
**Witnessed on:**  
[Redacted Signature]

--- End of Document ---

Fields received but not displayed in the above form:

**JOSEPH  
SERIAL NO. 10/533,743  
RULE 131 DECLARATION  
Exhibit 1**

# **3M Record of Invention** **RESTRICTED**

PO 32567

R.I. No. EU 1708		Page 1 of 2
Originating 3M Unit 3M UK PLC, Atherstone		I.P. Scientist- Mike Kent LIAISON
Title <b>Drop-in Filter/PPS</b>		
Investigator (full first name, middle initial, last name) <b>Stephen C. P. Joseph</b> 3M Emp. No. UK024116 Tech. Ntbk. No. 125124 (Pg. 94) Div or Lab Name <b>Automotive Aftermarket</b>	Investigator (full first name, middle initial, last name)  3M Emp. No. Tech Ntbk. No. Div. or Lab Name	
Investigator (full first name, middle initial, last name)  3M Emp. No. Tech. Ntbk. No. Div or Lab Name	Investigator (full first name, middle initial, last name)  3M Emp. No. Tech Ntbk. No. Div. or Lab Name	
Investigator (full first name, middle initial, last name)  3M Emp. No. Tech. Ntbk. No. Div or Lab Name	Investigator (full first name, middle initial, last name)  3M Emp. No. Tech Ntbk. No. Div. or Lab Name	
Information relating to this invention was first written down on or about (provide date): September 2001		
Other potentially interested 3M units: - <b>DIY, Industrial</b>		
Was patent/literature search completed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If so, by whom? Who has search results?		
Person from whom samples/photos/drawings can be obtained: <b>Steve Joseph</b>		
This invention may relate to government funded research. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
This invention may relate to an outside agreement. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Described by: Print or type name: <b>Stephen C. P. Joseph</b> Sign and date: <i>Stephen C. P. Joseph</i> [Signature]	This document has been read and understood by me Witness: Print or type name: <b>Neil Darbridge</b> Sign and date: <i>Neil Darbridge</i> [Signature]	

# 3M Record of Invention

## RESTRICTED

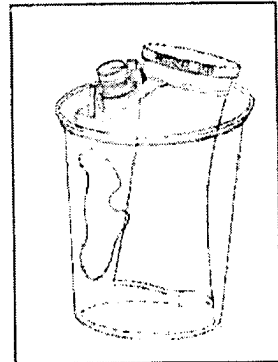
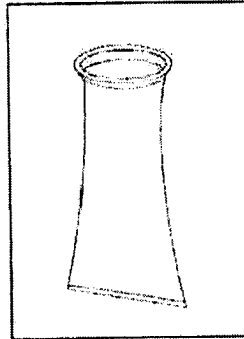
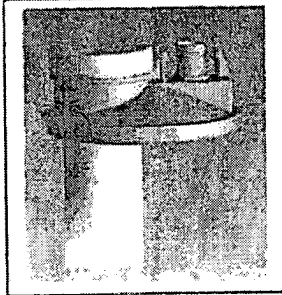
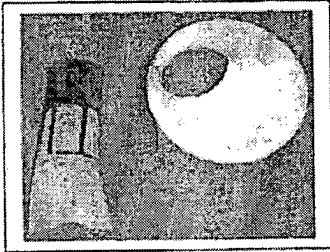
R.I. No. EU 1708

Page

2 of 2

### Title Drop-in Filter/PPS

This ROI is based around the concept of providing a filter, which can be used in conjunction with the refillable PPS. The filter could be made completely of mesh (with the exception of a rigid top ring) such that it can be left in place with the PPS (and subsequently collapses as the liner collapses). Alternatively, a supporting 'cage' could be easily moulded around the filter to add rigidity and strength etc. Of course, with this latter design, the filter would need removing to allow the liner to collapse and have the PPS function correctly.



Advantages of this filter are as follows:-

1. The filter can be easily removed should it become blocked for any reason.
2. The filter can be made in a variety of mesh sizes and supplied separately.
3. There would be no need to supply the filter in the exit spout of the refillable PPS lid.

Disadvantages of this filter may be as follows:-

1. Cost (the more mesh, the greater the cost).
2. Filling speeds (the filter must allow the paint etc. to be poured in and thus filtered at an adequate rate).

Further work is required to optimise the design, although the concept has already been reduced to practice.

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**Refillable Paint Preparation System: BuGS  
Database**

**3M Confidential**

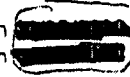
Status: Complete

Phase 1: Opportunity Assessment - PRODUCT AND PROCESS  
PROTOTYPE DEVELOPMENT

Subject: **Design Concepts - Lid component**  
Completion Date:

Created: Steve C Joseph

Last Edit: Steve C Joseph



**DOCUMENT**

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Design concepts are all based on providing an easily accessible refillable opening for the end-user. However, optimising the ergonomics of the system once it is mounted on the spraygun must also to be considered. The attachment below shows 3 concepts, 2 of which would require the use of the 4-way adapter design to ensure positioning on the spraygun is at an optimum position. The 3rd concept would allow the use of the standard 2-way adapter configuration, however, the size of the exit hole in the refillable portion would be restricted if the design was as per the picture shown.

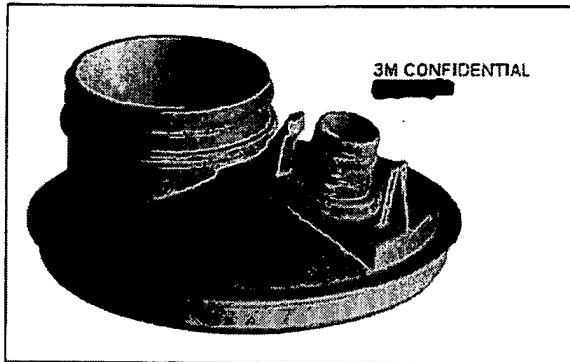


Design concepts

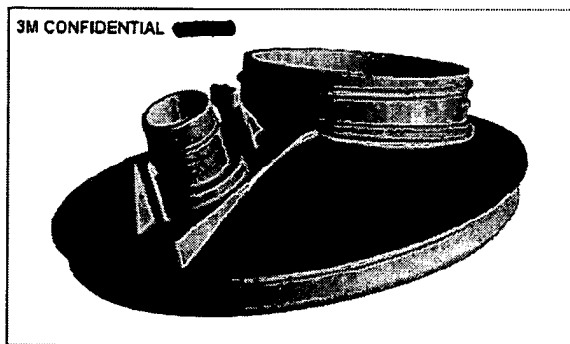
**JOSEPH  
SERIAL NO. 10/533,743  
RULE 131 DECLARATION  
Exhibit 2**

Design concepts

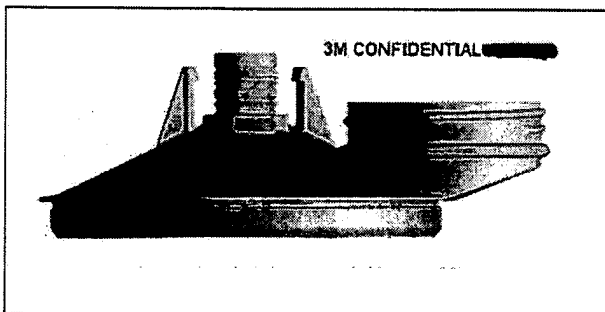
Option 1 – raised 53mm 'refill' opening, offset spout through to adapter.



Option 2 – flush 53mm 'refill' opening, offset spout through to adapter.



Option 3 – offset 53mm 'refill' opening, centrally located spout through to adapter.



**JOSEPH**  
**SERIAL NO. 10/533,743**  
**RULE 131 DECLARATION**  
**Exhibit 3**

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**Refillable Paint Preparation System: BuGS  
Database**

**3M Confidential**

Status: Complete

Phase 1: Opportunity Assessment - PRODUCT AND PROCESS  
PROTOTYPE DEVELOPMENT

Subject: **Design Concepts - Refillable PPS**  
Completion Date:

Created: Steve C Joseph

Last Edit: Steve C Joseph

DOCUMENT

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Attachment shows pictures of the refillable PPS concept (one possible design) both on and off the spraygun. Ease of access to the refilling portion of the lid is clearly visible - even when the system is mounted on the spraygun.



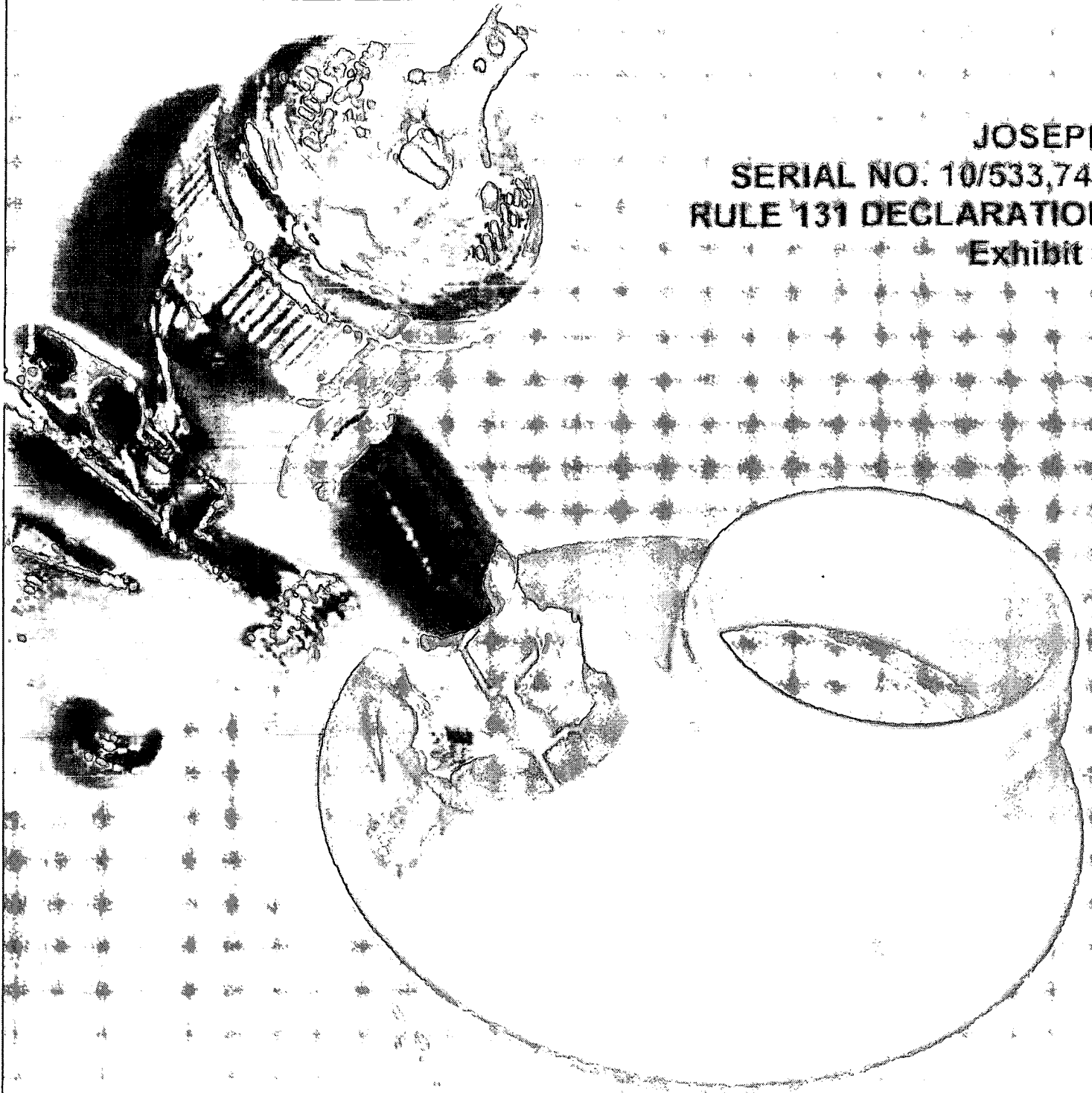
refill concept1

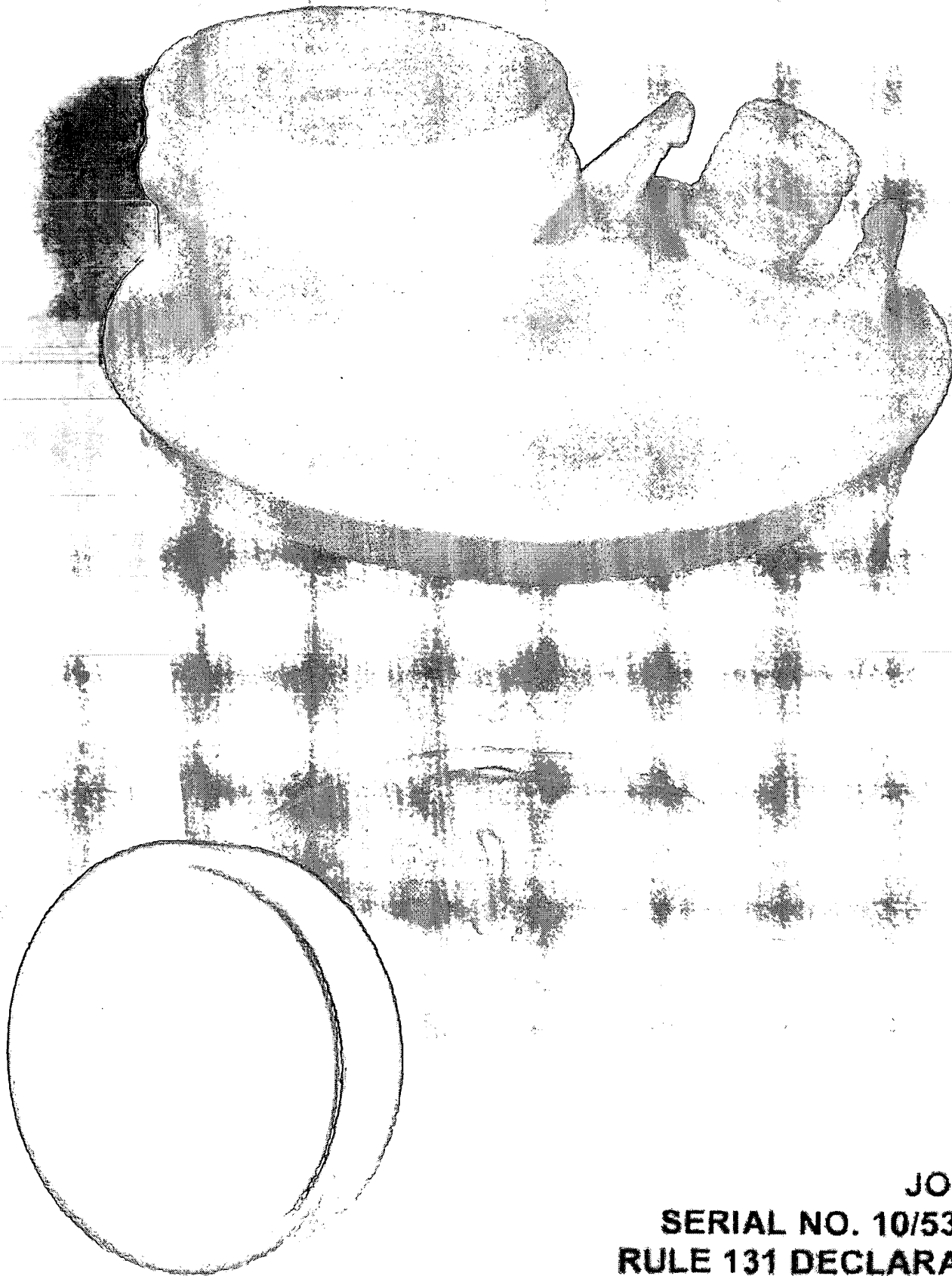


on refill concept1

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Exhibit 4**

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RULE 131 DECLARATION  
Exhibit 5





JOSEPH  
SERIAL NO. 10/533,743  
RULE 131 DECLARATION  
Exhibit 6

1 PROJECT NO.

SUBJECT:

DATE:

## Objective:

To: Cecilia Hill/Europe/3M/US@3M-Corporate  
cc: Mike L. Kent/UK-Europe/3M/US@3M-Corporate  
Subject: Drop-in filter

Cecilia,

If not already part of the patent application for the reusable FPS, this embodiment should be added. There are benefits to utilizing a filter of this design be it collapsible (preferable) or semi-rigid. The actual filter design itself is not anything new, nor is the general use of such a filter to strain solids etc., however, its use within a collapsible reservoir for delivering paint or to a spraygun is, I believe, novel.

088\_73900 Drop\_in filter Drop\_in filter Drop\_in filter

Chris,  
Steve

When efficiencies as I believe  
that was the fact that led to  
the efficiencies of 77% or

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SERIAL NO. 10/533,743  
RULE 131 DECLARATION  
Exhibit 7

AUTHOR'S FULL NAME or INITIALS

DATE:

WITNESS'S FULL NAME or INITIALS

DATE:

(READ AND UNDERSTOOD)